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Blackmon

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(54) **DECISION FEEDBACK EQUALIZATION
PRE-PROCESSOR WITH TURBO
EQUALIZER**

(75) **Inventor:** Fletcher A. Blackmon, Forestdale, MA
(US)

(73) **Assignee:** The United States of America as
represented by the Secretary of the
Navy, Washington, DC (US)

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(58) **Field of Search** 367/134; 375/233

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Primary Examiner—Daniel Pihulic

(74) **Attorney, Agent, or Firm**—James M. Kasischke;
Michael F. Oglo; Jean-Paul A. Nasser

(57) **ABSTRACT**

The present invention provides a receiver for underwater acoustic telemetry which combines a decision feedback adaptive equalizer structure with a turbo-equalizer structure. The turbo-equalizer structure is of significantly reduced complexity because the decision feedback adaptive equalizer structure is operable to pre-process a plurality of data channels to provide a single symbol data output stream for application to the input of the turbo-equalizer. The turbo-equalizer structure is also of reduced complexity due to use of a correlator to provide channel response data to the turbo-equalizer. The channel response data is produced by comparing received data comprising a training sequence with a locally produced training sequence.

14 Claims, 2 Drawing Sheets

